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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,159	04/19/2004	William H. Owen	047752/268747	2705

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EXAMINER	
HEWITT, JAMES M	
ART UNIT	**PAPER NUMBER**
3679	

DATE MAILED: 09/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/827,159	OWEN ET AL.	
	Examiner	Art Unit	
	James M. Hewitt	3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 26-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 5-14, 26, 30-36* is/are rejected.

7)☒ Claim(s) *2-4 and 27-29* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). The specification does not provide proper antecedent basis for the following: the suspending step (claim 29); "adjusting the slope..." (claim 32).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 5, 6, 9, 14, 26, 30-33 and 35-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Jones (US 2004/0232700 A1).

With respect to claim 1, Jones discloses a mechanical pipe joint for sealing and restraining adjoining fluid piping members along an axis, said joint comprising: a male piping member (13) defining an outer surface; a female piping member (11) comprising a bell socket for receiving the male piping member, the bell socket defining an inner surface having a circumference larger than outer surface of the male piping member so

as to define a sealing cavity (17) therebetween; a gland (31) extending at least partially around the male piping member and being configured for axial engagement to the bell socket, the gland defining at least one bearing surface (35) that is forced axially as the gland is axially engaged with the bell socket; and a restraining gasket (15) for sealing and restraining the male piping member relative to the female piping member, the restraining gasket being formed at least in part of an elastomeric material and comprising: a sealing portion (45) that fits substantially within the sealing cavity and provides a fluid seal between the inner surface of the bell socket and the outer surface of the male piping member; and a restraining portion that surrounds the male piping member substantially outside of the sealing cavity and comprises a plurality of circumferentially-spaced arcuate locking members (53) formed from a rigid material and configured to be operably engaged between the bearing surface of the gland and the outer surface of the male piping member as the gland is axially attached to the bell socket so as to restrain the piping member within the bell socket, wherein the locking members are retained relative to each other by the elastomeric material before the attachment of the gland to the bell socket.

With respect to claim 5, wherein the plurality of circumferentially-spaced arcuate locking members are configured to restrain the outer surface of the male piping member with a means for gripping the outer surface of the male piping member, the gripping means selected from the group consisting of: a plurality of teeth (71, 73); an abrasive grit; a granular material; or a plurality of radial ridges.

With respect to claim 6, further comprising an interface (e.g., as at 63) between the sealing portion and the restraining portion, the interface defining a slope, the slope being configured to convert an axial force of the at least one bearing surface of the gland into a partially-axial force and a partially-radial force on the restraining gasket.

With respect to claim 9, wherein the arc length of each of the locking members is at least 15 degrees with respect to the axis. Refer to Figure 5.

With respect to claim 14, further comprising a flange operably engaged with the bell socket, the flange (27) extending radially outward from the bell socket and wherein the flange further defines a first plurality of apertures (29) extending through the flange parallel to the axis, and wherein the gland further defines a second plurality of apertures (37) configured to correspond axially with the first plurality of apertures and to accept a plurality of threaded connectors (39, 41) configured to axially attach the gland to the bell socket.

With respect to claim 26, Jones discloses a method of sealing and axially securing a male piping member (13) within an adjoining bell socket (11) along an axis, the bell socket defining a sealing cavity (17) between an inner surface of the bell socket and an outer surface of the male piping member, the method comprising; providing a restraining gasket (15) adapted to surround the male piping member, the restraining gasket being formed at least in part of an elastomeric material and having a sealing portion (45) and a restraining portion, the restraining portion comprising a plurality of circumferentially-spaced arcuate locking members (53) formed from a rigid material and wherein the locking members are retained relative to each other by the elastomeric

material; surrounding the male piping member with the restraining gasket; inserting the male piping member into the bell socket such that the restraining portion of the restraining gasket surrounds the outer surface of the male piping member substantially outside of the sealing cavity, and such that the sealing portion of the restraining gasket is positioned about the male piping member substantially within the sealing cavity so that a fluid seal is formed between the inner surface of the bell socket and the outer surface of the male piping member; and attaching a gland (31) to the bell socket, the gland extending at least partially around the male piping member and the gland defining at least one bearing surface (35), such that the at least one bearing surface produces an attachment force directed substantially parallel to the axis, on the plurality of circumferentially-spaced arcuate locking members so that the locking members are urged into engagement with the male piping member so as to axially secure the male piping member within the bell socket.

With respect to claim 30, wherein the providing step further comprises providing a surface located on the radially inner surface of each arcuate locking member, the surface selected from the group consisting of: a plurality of teeth (71, 73); an abrasive grit; a granular material; or a plurality of radial ridges

With respect to claim 31, wherein providing step further comprises providing an interface (e.g., as at 63) between the sealing portion and the restraining portion, the interface defining a slope, the slope being configured to convert the attachment force of the at least one bearing surface of the gland into a partially-axial force and a partially-radial force on the gasket.

With respect to claim 32, wherein the providing step further comprises adjusting the slope to be directed radially outward towards the bell socket, such that the partially-axial force is exerted first on the sealing portion, and the partially radial force is exerted second on the plurality of circumferentially-spaced arcuate locking members so that the attachment force of the at least one bearing surface of the gland seals the sealing cavity about the male piping member before urging the plurality of circumferentially-spaced arcuate locking members into engagement with the outer surface of the male piping member so as to axially secure the male piping member within the bell socket.

With respect to claim 33, wherein the providing step further comprises providing one or more of the plurality of circumferentially-spaced arcuate locking members with an arc length of at least 15 degrees, with respect to the axis. Refer to Figure 5.

With respect to claim 35, wherein the providing step further comprises providing the rigid material from the group consisting of: hardened metal; mild steel; ductile iron; ceramic; or plastic having a hardness greater than that of any PVC.

With respect to claim 36, wherein the attaching step further comprises attaching the gland to the bell socket using a plurality of threaded connectors (39, 41) such that the at least one bearing surface of the gland is gradually brought into contact with the plurality of circumferentially-spaced arcuate locking members.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7-8, 10-13 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (US 2004/0232700 A1).

With respect to claims 7 and 8, Jones fails to teach that the slope is directed radially outward towards the bell socket at an angle of approximately 10-20 degrees (approximately 15 degrees) with respect to a plane that is perpendicular to the axis. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Jones such that the slope is directed radially outward towards the bell socket at an angle of approximately 10-20 degrees (approximately 15 degrees) with respect to a plane that is perpendicular to the axis, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

With respect to claims 10 and 34, Jones states that ring segments of various lengths may be employed. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ segments with an arc length of 60 degrees.

With respect to claim 11, Jones fails to explicitly teach that his bell socket is ductile iron. Jones teaches that his bell socket is metal (note cross-hatching in Figure 4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ ductile iron as Jones' metal, since it has been held to be

within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

With respect to claim 12, wherein the rigid material is selected from one of the group consisting of: mild steel; ductile iron; ceramic; or plastic having a hardness greater than that of PVC.

With respect to claim 13, Jones fails to explicitly teach that his bell socket and male member are made of ductile iron. Jones teaches that his bell socket and male member may be metal. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ ductile iron as Jones' metal, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice.

Allowable Subject Matter

Claims 2-4 and 27-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments filed 6/22/06 have been fully considered but they are not persuasive.

Applicant asserts that Jones does not teach or fairly suggest "a restraining portion that surrounds the male piping member substantially outside of the sealing cavity" as claimed in claim 1, and "inserting the male piping member into the bell socket such that the restraining portion of the restraining gasket surrounds the outer surface of the male piping member substantially outside of the sealing cavity" as claimed in claim 26. Examiner disagrees. As shown in FIG. 4, Jones' restraining portion (comprising locking members **53**) surrounds the male piping member **13** substantially outside of the sealing cavity. The restraining portion is considered to be substantially outside of the sealing cavity. Also, with particular respect to claim 26, as shown in FIG. 2, a portion of Jones' restraining portion is disposed outside of the sealing cavity. And given the broadest reasonable interpretation, this portion is a substantial, or not insignificant, portion.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Hewitt whose telephone number is 571-272-7084.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMH
9/2/06

JAMES M. HEWITT
PRIMARY EXAMINER